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Clmpto 2182

### C. Styles

1. A method for a service provider on a private network to provide a service for an external client on an external network via a gateway bridging the private and external networks, including the service provider carrying out the steps of:
  - allocating a virtual name to the service provider;
  - making the virtual name available to a client on the external network;
  - binding the virtual name to the routing address of the gateway on the external network; and
  - binding the virtual name to the routing address of the service provider on the private network.
2. A method as claimed in claim 1 in which virtual name is bound to the routing address of the gateway and the routing address of the service provider by way of an external domain name server and private domain name server, respectively.
3. A method as claimed in claim 1 in which the virtual name is bound to the routing address of the service provider on an internal naming service.
4. (Amended) A method as claimed in claim 1 in which the external network includes the internet.
5. (Amended) A method as claimed in claim 1 in which the client and the service provider communicate by way of tunnelled session via the gateway.

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6. A method as claimed in claim 5 in which messages communicated between the client and service provider are encrypted.

7. A method as claimed in claim 1 in which the client is on a second internal network distinct from the internal network of the service provider and a second gateway bridges the second internal network and external network, the method including the steps of:

- allocating a second virtual name to the client;
- making the second virtual name available to the service provider;
- binding the second virtual name to the routing address of the second gateway on the external network; and
- binding the second virtual name to the routing address of the client on the second internal network.

8. A method as claimed in claim 1 in which there is a second service provider on a second private network able to communicate with an external network via a second gateway bridging the second private and external network, including the steps of:

- allocating a second virtual name to the second service provider;
- making the second virtual name available to a client;
- binding the second virtual name to the routing address of the second gateway on the external network; and
- binding the second virtual name to the routing address of the second service provider on the second private network.

9. A method as claimed in claim 1, in which the external network includes a further private network containing the private network of the service provider and there is further gateway bridging the further private network to the portion of the external network which is external to the further private network, the method including the additional steps of:

- binding the virtual name to routing address of the further gateway on the portion of the external network which is external to the further private network.

10. A method of providing access to a server on a private network from an external client on an external network via a gateway bridging the private and external networks,

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the gateway supporting tunnelling of second messages to said server by encapsulating them in first messages routed to the gateway; the method involving:

- (a) - allocating a virtual name to the server and mapping it by a first mapping to the routing address of the gateway on the external network and by a second mapping to the routing address of the server on the private network;
- (b) - at said external client, using the virtual name to address a said first message and a said second message, the former encapsulating the latter;
- (c) - using the first mapping to route the first message, with its encapsulated second message, to the gateway; and
- (d) - using the second mapping to route the second message extracted at the gateway from the first message, to the server.

11. A method as claimed in claim 10 in which said first messages are encrypted.

12. (New) A method as claimed in claim 2 in which the external network includes the internet.

13. (New) A method as claimed in claim 3 in which the external network includes the internet.

14. (New) A method as claimed in claim 2 in which the client and the service provider communicate by way of tunnelled session via the gateway.

15. (New) A method as claimed in claim 3 in which the client and the service provider communicate by way of tunnelled session via the gateway.

16. (New) A method as claimed in claim 4 in which the client and the service provider communicate by way of tunnelled session via the gateway.